



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200  
Fax 613 632-5246

**D4155-041**  
**Job Sheet 195217**



Part No: D4155-041

Job Qty: 8 pcs

Part Name: Wearbar Assembly



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 5/16/19

Job Tracking No:

Due Date: 5/31/19 June 14

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV F IPP REV:A 15.10.16 AS PER DWG REV.F5 DD VERF:JLM

Ship Via:

### Bill of Materials

### Job Routing

| Op No | Operation                 | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier         |           | Sign-off |
|-------|---------------------------|-------|------------|----------|-----------|---------|-----------------------------|-----------|----------|
|       |                           |       |            |          | Setup Hrs | Run Hrs | Workcenter / Supplier       | Lead Time |          |
| 100   | Large Fab - Welded Assy-1 | 5 pcs | 5/31/19    |          | 0.00      | 0.21    | Large Fab - 1               |           |          |
|       |                           |       |            |          |           |         | Large Fab - 10              |           |          |
|       |                           |       |            |          |           |         | Large Fab - 2               |           |          |
|       |                           |       |            |          |           |         | Large Fab - 3               |           |          |
|       |                           |       |            |          |           |         | Large Fab - 4               |           |          |
|       |                           |       |            |          |           |         | Large Fab - 5               |           |          |
|       |                           |       |            |          |           |         | Large Fab - 6               |           |          |
|       |                           |       |            |          |           |         | Large Fab - 7               |           |          |
|       |                           |       |            |          |           |         | Large Fab - 8               |           | MA       |
|       |                           |       |            |          |           |         | Large Fab - 9               |           | MA       |
| 110   | Automated Welding - B4B   | 5 pcs | 5/31/19    |          | 0.00      | 3.91    | Automated Welding - 1 - B4B |           |          |
| 120   | QC 10                     | 5 pcs | 5/31/19    |          | 0.00      | 0.00    | QC 10 - 10                  |           |          |
|       |                           |       |            |          |           |         | QC 10 - 18                  |           |          |
|       |                           |       |            |          |           |         | QC 10 - 24                  |           |          |
|       |                           |       |            |          |           |         | QC 10 - 43                  |           |          |
|       |                           |       |            |          |           |         | QC 10 - 50                  |           | EL       |
|       |                           |       |            |          |           |         | QC 10 - 58                  |           |          |
|       |                           |       |            |          |           |         | QC 10 - 9                   |           |          |
| 130   | QC 5                      | 5 pcs | 5/31/19    |          | 0.00      | 0.00    | QC 5 - 10                   |           |          |
|       |                           |       |            |          |           |         | QC 5 - 12                   |           |          |
|       |                           |       |            |          |           |         | QC 5 - 17                   |           |          |
|       |                           |       |            |          |           |         | QC 5 - 18                   |           |          |
|       |                           |       |            |          |           |         | QC 5 - 19                   |           |          |
|       |                           |       |            |          |           |         | QC 5 - 22                   |           |          |
|       |                           |       |            |          |           |         | QC 5 - 24                   |           |          |
|       |                           |       |            |          |           |         | QC 5 - 3                    |           |          |
|       |                           |       |            |          |           |         | QC 5 - 43                   |           |          |
|       |                           |       |            |          |           |         | QC 5 - 49                   |           |          |
|       |                           |       |            |          |           |         | QC 5 - 51                   |           |          |
|       |                           |       |            |          |           |         | QC 5 - 58                   |           |          |

DART AEROSPACE LTD.



Dart Aerospace Ltd.  
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Hawkesbury, ON K6A 1K7  
CANADA  
TEL.: 1 613 632-5200  
Email: sales@dartaero.com  
www.dartaerospace.com

Container No: S185637



Part: D4155-041

Job No: 195217

Serial No/Batch: S185637

Revision:

Inspector:

Exp Date:

Instructions: Various STC's

Date: 06/03/19

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|     |                             |          |         |           |                        |                  |
|-----|-----------------------------|----------|---------|-----------|------------------------|------------------|
| 140 | Packaging 3-1 - Stock - B4B | 5<br>pcs | 5/31/19 | 0.00 0.00 | QC 5 - 68              |                  |
|     |                             |          |         |           | QC 5 - 9               |                  |
|     |                             |          |         |           | QC 5 - 50              | Q                |
|     |                             |          |         |           | QC 5 - 30              |                  |
|     |                             |          |         |           | QC 5 - 40              |                  |
|     |                             |          |         |           | Packaging 3 - 1 - B4B  |                  |
|     |                             |          |         |           | Packaging 3 - 2 - B4B  |                  |
|     |                             |          |         |           | Packaging 3 - 3 - B4B  |                  |
|     |                             |          |         |           | Packaging 3 - 4 - B4B  |                  |
|     |                             |          |         |           | Packaging 3 - 5 - B4B  |                  |
|     |                             |          |         |           | Packaging 3 - 6 - B4B  |                  |
|     |                             |          |         |           | Packaging 3 - 7 - B4B  |                  |
|     |                             |          |         |           | Packaging 3 - 8 - B4B  |                  |
|     |                             |          |         |           | Packaging 3 - 9 - B4B  |                  |
|     |                             |          |         |           | Packaging 3 - 10 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 11 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 12 - B4B | Q                |
|     |                             |          |         |           | Packaging 3 - 13 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 14 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 15 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 16 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 17 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 18 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 19 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 20 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 21 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 22 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 23 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 24 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 25 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 26 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 27 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 28 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 29 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 30 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 31 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 32 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 33 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 34 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 35 - B4B |                  |
|     |                             |          |         |           | Packaging 3 - 36 - B4B |                  |
| 150 | QC 21 - SA                  | 5<br>pcs | 5/31/19 | 0.00 0.00 | QC 21 - SA - 21        | DAS JUN 03 2019  |
|     |                             |          |         |           | QC 21 - SA - 70        | 21 JUN 03 2019   |
|     |                             |          |         |           | QC 21 - SA - 53        | 9-BS JUN 03 2019 |

Part Op **100** - (Large Fab) Cut D4155-1 at 94.00" (EXTRA MATERIAL WILL BE CUT ON ASSEMBLY D4154-041)  
 Descriptions: **110** - (Automated welding) 1- USE GRINDER TO CHAMFER END AS PER DWG . SEE "DETAIL B" \*\*\*SEE NOTE 9 FOR SURFACE BUILDUP\*\*\* USE DT9756 WELDING FIXTURE  
**120** - (QC10- Inspect visual per QSI004- ground welds)  
**130** - (QC5- Inspect part completeness to step on W/O)  
**140** - (Identify as per dwg & Stock Location: \_\_\_\_\_) LOCATION: WA002  
**150** - (QC21- Final Inspection - Work Order Release)

## Job BOM

| Part / Item      | Component Name      | Quantity       | Operation                     | Container |
|------------------|---------------------|----------------|-------------------------------|-----------|
| M304B0.250x0.500 | 304 Bar .250 X .500 | 39 ft (7.8 ea) | 100-Large Fab - Welded Assy-1 | S160 771  |

## Job Allocations

| Operation                     | Component Part   | Required | Inventory | Allocated |
|-------------------------------|------------------|----------|-----------|-----------|
| 100-Large Fab - Welded Assy-1 | M304B0.250x0.500 | 39       | 240       | 0         |

|                                    |  |
|------------------------------------|--|
| <b>Part Specifications</b>         |  |
| Specifications could not be found. |  |

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Entered: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. \_\_\_\_\_

Route update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                            |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
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| Job: _____<br><br>Part No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/> | <b>DEPARTMENT/PROCESS</b><br><br><table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Cross tube <input type="checkbox"/></td> <td>Eng. (Non-AW) <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Supplier Quality <input type="checkbox"/></td> </tr> </table> |                                            |                       |                          | Skid-tube <input type="checkbox"/> | Cross tube <input type="checkbox"/> | Eng. (Non-AW) <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Supplier Quality <input type="checkbox"/> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Skid-tube <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Cross tube <input type="checkbox"/>                                                                                               | Eng. (Non-AW) <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Engineering <input type="checkbox"/>       |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Machining <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Small Fab <input type="checkbox"/>                                                                                                | Prod. Eng. Coord. <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Water Jet <input type="checkbox"/>         |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Large Fab <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Finishing <input type="checkbox"/>                                                                                                | Rec/Store/Packaging <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Supplier Quality <input type="checkbox"/>  |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Date : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Sequence #: _____                                                                                                                 | QTY Affected : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            | MRB (QSI042)          |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Disposition                                |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Completed By                               |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Lead hand / Supervisor                     |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | QC / QA Coordinator                        |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <b>Root Cause</b><br><br><table style="width: 100%;"> <tr><td>Operator</td><td><input type="checkbox"/></td></tr> <tr><td>Manufacturing Process</td><td><input type="checkbox"/></td></tr> <tr><td>Equip/Tooling</td><td><input type="checkbox"/></td></tr> <tr><td>Handling/Preservation</td><td><input type="checkbox"/></td></tr> <tr><td>Material</td><td><input type="checkbox"/></td></tr> <tr><td>Product Improvement</td><td><input type="checkbox"/></td></tr> <tr><td>Process Improvement</td><td><input type="checkbox"/></td></tr> <tr><td>Human Factors</td><td><input type="checkbox"/></td></tr> </table> |                                                                                                                                   | Operator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/>                   | Manufacturing Process | <input type="checkbox"/> | Equip/Tooling                      | <input type="checkbox"/>            | Handling/Preservation                  | <input type="checkbox"/>             | Material                           | <input type="checkbox"/>           | Product Improvement                        | <input type="checkbox"/>           | Process Improvement                | <input type="checkbox"/>           | Human Factors                                | <input type="checkbox"/>                  | <b>FAULT CATEGORY</b><br><br><table style="width: 100%;"> <tr> <td><input type="checkbox"/> Pressure/Forced</td> <td><input type="checkbox"/> Contamination</td> <td><input type="checkbox"/> Power Loss/Surge</td> <td><input type="checkbox"/> Positioned Wrong</td> </tr> <tr> <td><input type="checkbox"/> Bending</td> <td><input type="checkbox"/> Misaligned/off center</td> <td><input type="checkbox"/> Folio/Program</td> <td><input type="checkbox"/> Outside Tolerance</td> </tr> <tr> <td><input type="checkbox"/> Crushing</td> <td><input type="checkbox"/> BOM/Route</td> <td><input type="checkbox"/> Grain Direction</td> <td><input type="checkbox"/> Drawing</td> </tr> <tr> <td><input type="checkbox"/> Cracks</td> <td><input type="checkbox"/> Broken/Damage/Defect</td> <td><input type="checkbox"/> Weld</td> <td><input type="checkbox"/> Finish</td> </tr> <tr> <td><input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist</td> <td><input type="checkbox"/> Incomplete/Unclear Instructions</td> <td><input type="checkbox"/> Wrong Stock Pulled</td> <td><input type="checkbox"/> Part Lost/Missing</td> </tr> <tr> <td><input type="checkbox"/> Marks/Chatter</td> <td><input type="checkbox"/> Drill Holes</td> <td><input type="checkbox"/> Out of Sequence</td> <td><input type="checkbox"/> Misread</td> </tr> <tr> <td><input type="checkbox"/> Mislabeled</td> <td><input type="checkbox"/> Fit/Function</td> <td><input type="checkbox"/> Off-set/Set-up</td> <td></td> </tr> </table> |  |  |  | <input type="checkbox"/> Pressure/Forced | <input type="checkbox"/> Contamination | <input type="checkbox"/> Power Loss/Surge | <input type="checkbox"/> Positioned Wrong | <input type="checkbox"/> Bending | <input type="checkbox"/> Misaligned/off center | <input type="checkbox"/> Folio/Program | <input type="checkbox"/> Outside Tolerance | <input type="checkbox"/> Crushing | <input type="checkbox"/> BOM/Route | <input type="checkbox"/> Grain Direction | <input type="checkbox"/> Drawing | <input type="checkbox"/> Cracks | <input type="checkbox"/> Broken/Damage/Defect | <input type="checkbox"/> Weld | <input type="checkbox"/> Finish | <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist | <input type="checkbox"/> Incomplete/Unclear Instructions | <input type="checkbox"/> Wrong Stock Pulled | <input type="checkbox"/> Part Lost/Missing | <input type="checkbox"/> Marks/Chatter | <input type="checkbox"/> Drill Holes | <input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Misread | <input type="checkbox"/> Mislabeled | <input type="checkbox"/> Fit/Function | <input type="checkbox"/> Off-set/Set-up |  |
| Operator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/>                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                            |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Manufacturing Process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <input type="checkbox"/>                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                            |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Equip/Tooling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/>                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                            |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Handling/Preservation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <input type="checkbox"/>                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                            |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/>                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                            |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Product Improvement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                            |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Process Improvement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                            |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Human Factors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/>                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                            |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Pressure/Forced                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/> Contamination                                                                                            | <input type="checkbox"/> Power Loss/Surge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Positioned Wrong  |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Bending                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/> Misaligned/off center                                                                                    | <input type="checkbox"/> Folio/Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <input type="checkbox"/> Outside Tolerance |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Crushing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <input type="checkbox"/> BOM/Route                                                                                                | <input type="checkbox"/> Grain Direction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/> Drawing           |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Cracks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Broken/Damage/Defect                                                                                     | <input type="checkbox"/> Weld                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/> Finish            |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <input type="checkbox"/> Incomplete/Unclear Instructions                                                                          | <input type="checkbox"/> Wrong Stock Pulled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/> Part Lost/Missing |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Marks/Chatter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/> Drill Holes                                                                                              | <input type="checkbox"/> Out of Sequence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/> Misread           |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Mislabeled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/> Fit/Function                                                                                             | <input type="checkbox"/> Off-set/Set-up                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                            |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Other/Details:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                            |                       |                          |                                    |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |